

SECRET

FIELD DOCUMENT ROUTING AND ACTION RECORD

INSTRUCTIONS: Routing designations, either individuals or units, are to be placed in the "TO" column. Comments are to be numbered to correspond to the number in the "TO" column. Each comment is to be underlined with a line drawn across the "COMMENTS" column. Each recipient of the attached document is to place his initials in the proper space following the corresponding numbered routing. The date the document is forwarded to the next routing is to be placed in the proper column. The last routing on this sheet shall be the unit in which the basic document is to be filed. If the holding unit is other than the central files, the central file shall be the next to the last routing to insure proper control clearances. THIS DOCUMENT ROUTING AND ACTION RECORD IS TO REMAIN ATTACHED TO THE BASIC RECORD DOCUMENT AS A PERMANENT RECORD.

FROM R&D Laboratory				DOCUMENT SYMBOL AND NUMBER	
				DOCUMENT DATE	ACTION SUSPENSE DATE
TO	LOCATION	DATE FORWARDED	OFFICER INITIALS	COMMENTS	
1. R&D 20 APR 1959	2815 Alcott Hall	4/22/59 4-20	[initials]	Sounds like a good idea to rework 10th number device - suggest this be tied into storage development	
2.				What would be size increase for full alpha -	
3.					
4.					
5. R&D Lab			[initials]		
6.				How long will it take to improve present	
7.				50X1	
8.					
9. NCP		Apr 4/59		John - can we let's answer above questions in OFF-Line bigger study summary	
				50X1	
12.				[initials]	
13.					
14.					
				DOCUMENT PROCESSING DATA	
				INDEXED	
				ABSTRACTED	
				FILE NUMBER	

Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files

DATE: 14 April 1959

FROM :

50X1

SUBJECT: Simplification of [] Character Matrix

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1. A reassessment of the problem of code generation in the [] Portable [] has indicated that without any circuit modifications the character matrix in the keyer can be reduced from a total of 26 ferrite memory cores to 4 ferrite memory cores of the same type. At the same time the number of turns of #40 wire in the matrix would be reduced from 546 turns to 112 turns. The volume of the matrix would be reduced to 1/12 its present value.

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2. The new matrix would take about 1/5 as long to wire as the old matrix, and with the reduction in the number of wiring operations involving the hair-fine wire, the construction of the [] as a whole is made considerably more attractive. The thickness of the [] package could be reduced by 1/16 to 1/8 of an inch if this matrix is used on all future models.

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3. If some further developmental time can be allotted to this project before any future units are produced, the possibility of using four tape-wound bobbin cores in place of the four ferrite cores should be investigated. At least one transistor may thereby be eliminated, and operating margins improved.

4. It was previously stated that, in order to adapt the [] to a full 32-key letters-plus-figures standard teletype capability, one clock could be eliminated from the circuit and the character matrix expanded by a factor of three. With the new character matrix, however, the same clock could be eliminated and a total of only five cores used in the matrix. No significant circuit modifications would have to be made in eliminating the clock; of course, sufficient case area must be provided for the keyboard.

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DOCUMENT NO. _____
NO CHANGE IN CLASS. IS _____
CLASS. CHANGED TO: IS SECRET
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AUTH: HR 70-1
DATE: 9 DEC 1990 REVIEWER: 064540